SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for the

RIO GRANDE DRAINAGE BASIN

February 1, 1942

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Issued by the
United States Department of Agriculture
Soil Conservation Service
Division of Irrigation
In Cooperation with
The Colorado Agricultural Experiment Station
Colorado State College
Fort Collins, Colorado

February 10, 1942

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The following data pertaining to snow surveys and irrigation water-supply forecasts are provided by the Division of Irrigation, Soil Conservation Service of the U. S. Department of Agriculture, in cooperation with other Federal Bureaus, State Departments, and local organizations. The snow measurements are made principally by field personnel of the U. S. Forest Service and Colorado State Engineer. This work is otherwise conducted cooperatively with the State Engineers of Colorado and New Mexico, Colorado Agricultural Experiment Station, and various municipalities, irrigation associations and others. Precipitation records are supplied by the U. S. Weather Bureau.

PRECIPITATION DATA

WATERSHED	STATE	Precipitation October 1 to January 31	Departure from Normal	Precipitation January	Departure from Normal
		Inches	Inches	Inches	Inches
Canadian	New Mexico	4.12	+1.35	0.11	-0.24
Rio Grande	Colorado	2.29	-0.12	0.63	-0.56
Rio Grande	New Mexico	5.79	+1.61	0.31	-0.68
Pecos	New Mexico	4.97	+2.00	0.19	-0.33

Precipitation during January was below normal over the watershed of the Canadian, Rio Grande and the headwaters of the Rio Grande in the San Luis Valley, Colorado. The accumulated precipitation since October 1 over these watersheds was, however, considerably above normal except in Colorado.

SUMMARY OF FEBRUARY 1 SNOW SURVEYS AND COMPARISON OF DATA WITH THAT OF PREVIOUS YEARS BY WATERSHEDS

WATERSHEDS	Snow Depth			Water Content			Number Courses in Average	Snow Density			1942 Water Content in percent of	
	Six Year Avg.*	1941	1942	Six Year Avg.*	1941	1942		Six Year Avg.*	1941	1942	Six year Avg.*	1941
	In.	In.	In.	In.	In.	In.		Percent	Percent	Percent		
Rio Grande	25.8	37.3	19.3	6.4	9.6	4.7	21	25	26	24	73	49
Canadian River	14.0	22.8	7.8	3.5	5.2	2.2	2	25	23	28	63	42

*Some for shorter periods.

WATER SUPPLY OUTLOOK

Rio Grande

The water content of the snow on the watershed of the Rio Grande and its tributaries in Colorado and New Mexico as shown by measurements on 21 snow courses, is 51 percent less than it was a year ago and 27 percent less than the six-year average for these courses. Because of excess precipitation early in the winter and saturated soil conditions, stream flows are still above normal. The Elephant Butte reservoir is practically full and there is over four times as much water in storage in the El Vado reservoir on the Chama as there was at this time last year.

Canadian

Snow cover on the watershed of the Canadian is very light. On February 1 the average water content of the snow on two courses was 58 percent less than a year ago and 37 percent less than the six-year average for the courses. There is considerable moisture stored in the soil from early winter storms, but there was some surface drying during January.

The present indications are that the runoff from snow in New Mexico and Colorado will be less than normal this summer unless heavy snows occur during the remainder of the season, but because of the excellent condition of the soil moisture and the unprecedented amount of water in storage in reservoirs at this time the outlook for the irrigation water supply is still favorable.

RIO GRANDE WATERSHED

Summary of Federal and State Cooperative Snow Surveys

Issued February 10, 1942, at Fort Collins, Colo.

No.	Main Drainage and Snow Course	Local Drainage	Location: State	Locality	Description	Elev.	National Forest	Feb. 1 Snow Cover Measurements: Av. Snow Depth Av.©	1941	1942	Av. Water Content Av.©	1941	1942
	RIO GRANDE							In.	In.	In.	In.	In.	In.
26	Wolf Creek Pass	South Fork	Colo.	Wolf Cr.Pass	4-37N-2E	10000	Rio Grande	47.6	66.8	44.1	12.9	18.3	11.7
47	Silver Lakes	Alamosa R.	"	1 mi.S.Silver L.	15-36N-5E	9600	" "	16.7	26.5	11.9	3.3	5.6	2.1
49	River Springs	Conejos R.	"	10mi.W.Mogote	25-33N-6E	9300	" "	18.8	25.8	13.9	3.6	5.9	2.7
74	LaVeta Pass #2	SanCristoCr.	"	LaVeta Pass	22-28S-70W	9300	SanCristoGr	20.3	29.1	16.7	4.0	6.4	2.5
76	Summitville	Wightman Cr.	"	Summitville	30-37N-4E	11500	Rio Grande	54.7	62.0	56.8	13.3	13.0	15.3
77	Cumbres Pass #2	Los Pinos R.	"	Cumbres Pass	17-32N-5E	10000	" "	50.0	71.6	36.8	13.2	20.3	10.1
80	Santa Maria	N.Clear Cr.	"	Santa Maria Res.	8-41N-2W	9700	" "	15.4	23.8	13.6	3.2	5.6	2.2
82	Culebra	Culebra R.	"	12mi.E.SanLuis	37.2N105.2W	10000	SanCristoGr	26.5	37.4	22.0	6.4	9.6	5.0
84	Fort Garland	Big Ute Cr.	"	6mi.N.Ft.Garland	13-29N-72W	8200	" " "	13.3	23.4	7.5	2.9	5.4	1.5
1	Red River	Red River	N.Mex.	6mi.SE.Red River	29-28N-15E	9500	Carson	21.8	26.1	18.1	5.5	7.3	3.9
2	Taos Canyon	Rio de Taos	"	14mi.E.Taos	10-25N-15E	9000	"	19.5	29.9	14.9	5.1	8.1	3.7
4	Aspen Grove	Rio En Medio	"	10mi.NE.Santa Fe	12-18N-10E	9100	Santa Fe	21.4	30.8	12.4	5.0	8.0	3.0
5	Lee Ranch	Jemez Cr.	"	5mi.NW.Bland	3-18N-4E	9050	" "	29.8	52.8	20.2	6.0	10.8	5.0
6	Canjilon	Canjilon Cr.	"	8mi.NE.Canjilon	4-26N-6E	9500	Carson	37.6	56.8	24.7	12.2	17.7	8.9
7	Rio Nutrias	Rio Nutrias	"	10mi.SE.ParkView	6-27N-5E	7900	"	20.4	31.1	13.4	4.5	7.4	3.6
8	Panchuela	Panchuela Cr.	"	1mi.N.Cowles	34-19N-12E	8500	Santa Fe	16.2	26.3	4.8	3.8	6.5	1.0
9	Hematite Park*	Red River	"	3mi.SE.Red R.	8-28N-15E	9500	Carson	16.2	26.0	11.5	3.8	6.0	2.4
12	Tres Ritos	Agua Piedra	"	7mi.W.Holman	23-22N-13E	9000	"	23.3	30.7	21.6	5.5	7.0	4.8
15	Pay Role	Rock Creek	"	4mi.SE.Hopewell	16-28N-7E	10000	"	28.7	42.0	15.4	9.6	15.7	3.4
16	Jicarilla	Rock Lake Cr.	"	15mi.S.Dulce	9-29N-1W	8500	JicarillaR.	19.9	31.5	12.9	4.9	7.8	3.2
17	Chama Divide	Willow Creek	"	6mi.W.Chama	36.9N-106.7W	7750	Off Forest	23.4	32.5	13.1	5.8	9.0	3.3
18	Chamita	Chamita Cr.	"	6mi.NW.Chama	36.9N-106.7W	8500	" "	--	--	20.5	--	--	4.5
19	Cordova	Cordova Canyon	"	2mi.W.Tres Ritos	22-22N-13E	10100	Carson	--	--	34.7	--	--	8.1
20	Panchuela #2	Panchuela Cr.	"	2mi.N.Cowles	27-19N-12E	8300	Santa Fe	--	--	7.8	--	--	1.8
21	Big Tesuque	Big Tesuque Cr.	"	10mi.NE.SantaFe	17-18N-11E	10000	Santa Fe	--	--	12.3	--	--	3.2
					Average for Drainage			25.8	37.3	19.3	6.4	9.6	4.7
	CANADIAN												
9	Hematite Park	Moreno Creek	N.Mex.	3mi.SE.Red R.	8-28N-15E	9500	Carson	16.2	26.0	11.5	3.8	6.0	2.4
10	Ocate Mesa	Ocate Creek	"	3mi.E.Black L.	25-24N-16E	9200	Off Forest	11.8	19.6	4.0	3.2	4.5	1.9
					Average for Drainage			14.0	22.8	7.8	3.5	5.2	2.2

*On adjacent drainage

©Average for period of record